AI ???

OVERALL AI CONCEPT:

- Artificial intelligence is a machine's ability to perform the cognitive functions we usually associate with human minds.

EXAMPLES OF CURRENT AI USAGE

- Smartphone
  - Personal Assistants (Seri, Alexa)
  - Waze
  - Maps/Directions
  - Voice Recognition
- Grammarly
- Online Shopping

EXAMPLES OF CURRENT AI USAGE

- Social Media Algorithms (what feeds to show you)
- Healthcare
  - Wearable devices, heart tracking, diabetes level tracking
- Entertainment Options – streaming services
- Email / Spam Filters
- Self Driving Cars/Trucks

WHAT IS CHATGPT

- ChatGPT is a natural language processing tool driven by AI technology that allows you to have human-like conversations and much more with the chatbot.

  The language model can answer questions and assist you with tasks, such as composing emails, essays, and code

KEY TERMS IN YOUR UNDERSTANDING OF AI

- Algorithm
  - A precise list of operations (commands) that could be done by a machine
- Artificial Intelligence
  - Development of systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translations between languages of the world
- Machine Learning
  - Provides systems the ability to automatically learn and improve from experience without being explicitly programed. ML focuses on the development of programs that can access data and use it.

FORMS OF AI

- Natural language processing (NLP) is a form of AI that gives machines the ability to not just read, but to understand and interpret human language.
  - With NLP, machines can make sense of written or spoken text and perform tasks including speech recognition, sentiment analysis, and automatic text summarization.
  - It can be considered the "ear" of AI
- Generative AI refers to the algorithms that enable computers to create new possible content
  - Can be considered the ‘voice’ of AI
- An example of natural language processing working with generative AI is **ChatGPT**, a Generative Pre-trained Transformer AI. It can be considered the "mouthpiece" of AI.

LARGE LANGUAGE MODULES (LLM)

- A "large language module" might refer to a substantial component or unit within a language processing system or model. In the context of natural language processing (NLP) and artificial intelligence (AI), a "language module" is a part of a system designed to understand, generate, or interact with human language.

- These models are trained on vast amounts of text data and are capable of understanding and generating human-like text across various tasks, such as answering questions, generating creative content, or assisting with language translation..

CHATGPT SEARCH VERSUS WEB SEARCH

CHATGPT

- Conversation Understanding
- Personalize Responses
- Complex (more than one concept in the question)
- Limited Scope
  - Based on data provided, may be old
- Subjectivity
  - Vary in accuracy and reliability

Web Keyword Search

- Vast Information
- Specific Info if keywords are filtered
- Up to Date Information
- May be considered more objective (depending on source)
- Limited Context

SUMMARY

- ChatGPT is useful for conversational inquiries, nuanced explanations, and personalized responses
- Web keyword searches are valuable for accessing vast information, finding specific details, and obtaining up-to-date information from a variety of sources.

WHAT ARE THE LIMITATIONS (PER CHATGPT)

- Lack of Real Understanding
  - ChatGPT does not truly understand the content it generates.
- Limited Context Awareness
  - While ChatGPT can maintain context within a conversation to some extent, it may still struggle with long-term context
- Biases in Training Data
- Inability to Verify Information

WHAT ARE THE LIMITATION (PER CHATGPT)

- Inconsistencies and Errors
- Limited Domain Knowledge
  - ChatGPT's knowledge is limited to the data it was trained on
- Inability to Reason or Infer
- Ethical Concerns
  - ChatGPT can generate text that may be harmful, offensive, or inappropriate.

PROJECTED 2025 TOP USES

1. Healthcare
    a. Personalize Medicine
    b. Medical Images
    c. Drug Discovery
2. Finance
    1. Fraud Detection
    2. Risk Assessment (credit worthiness)
    3. Algorithm Trading

PROJECTED 2025 TOP USES

3. Manufacturing
    a. Predictive Maintenance
    b. Quality Control (defect detection)
    c. Supply Chain Optimization
4. Retail
    a. Personalized Recommendations
    b. Inventory Management
    c. Customer Service

PROJECTED 2025 TOP USES

5. Autonomous Vehicles
    a. Self Driving Cars
    b. Transportation Optimization
6. Cybersecurity
    a. Threat Detection
    b. Vulnerability Management

COURSE WRAP - UP

DEVELOPING ORGANIZATIONS

- 21ST century organizations must:
  - Recognize the immense power of technology
  - Carry out required organizational changes
  - Learn to operate in an entirely different way

DEVELOPING ORGANIZATIONS

- Industries that have changed due to technology
  - Travel
  - Entertainment
  - Electronics
  - Financial services
  - Retail
  - Automobiles
  - Education and training

21ST CENTURY ORGANIZATIONAL TRENDS

- Four technology areas where organizations are focusing:

1. IT infrastructures
2. Security
3. Ebusiness
4. Integrations

INCREASED FOCUS ON IT INFRASTRUCTURES

- ***IT infrastructure –*** the hardware, software, and telecommunications equipment that, when combined, provide the underlying foundation to support the organization's goals

INCREASED FOCUS ON SECURITY

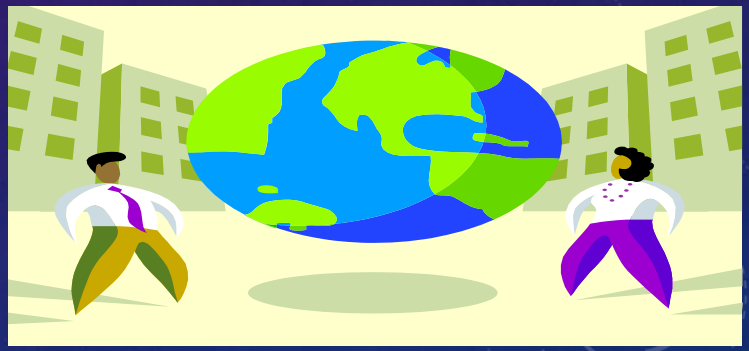
- For businesses it is important to have the appropriate levels of authentication, access control, and encryption in place

INCREASED FOCUS ON EBUSINESS

- New ebusiness trends include:
  - ***Mobile commerce*** – the ability to purchase goods and services through a wireless Internet-enabled device
  - ***Electronic tagging*** – a technique for identifying and tracking assets and individuals - BLOCKCHAIN

INCREASED FOCUS ON INTEGRATION

- Overall, core business relationships and models are changing



  - Product-centricity to customer-centricity
  - Mass production to mass customization
  - The value in material things to the value of knowledge and intelligence